A8050-1 12/27/82

FOR RELEASE A.M. MONDAY, DECEMBER 27, 1982

McLean, VA, Dec. 27 -- Following October's growth, net new orders for U.S. produced machine tools fell to $88.2 million in November, down 26% for the month and 55% compared to November 1981.

At $193.5 million, November's shipments of new machine tools were the lowest monthly rate recorded since October 1977. The National Machine Tool Builders' Association, located in McLean, Virginia, reported that while shipments were off only 4% from October, they were down almost 53% from the same month one year ago.

NMTBA President, James A. Gray noted, "While the recession has affected most sectors of the ecomony, U.S. machine tool builders are especially hard hit. With order levels as low as they are and with shipments and our backlog dropping each month, 1983 will be a difficult year for most U.S. machine tool producers."

November orders for metal-cutting machine tools were $62,750,000--off 14% from October and 54% from last year. Metal-cutting shipments rose a slight 3.4% in November to $155,700,000.

(over)

national machine tool builders association
7901 WESTPARK DRIVE
McLEAN, VIRGINIA 22102
AREA CODE (703) 893-2900
TWX: 710-831-0031 NMTBA MCLN

BEST AVAILABLE COPY

Metal-forming orders fell 45% in November to $25,450,000 and shipments fell 25% to $37,800,000.

The attached tables detail both sectors of the industry showing orders, shipments and cancellations by source--U.S. or foreign. The Comparison Chart provides data for last month, last year and the year-to-date totals through November.

# # # # #

COMPARISON CHART

NET NEW ORDERS -- MACHINE TOOLS
(Thousands of Dollars)

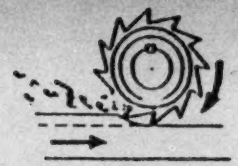
	METAL CUTTING			METAL FORMING			TOTAL Cutting and Forming		
	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total
Nov. 1982	47,450	15,300	62,750	21,900	3,550	25,450	69,350	18,850	88,200
Oct. 1982	59,100	13,750	72,850	42,550	3,800	46,350	101,650	17,550	119,200
% Change Nov.1982:Oct.1982	-19.7	+11.3	-13.9	-48.5	-6.6	-45.1	-31.8	+7.4	-26.0
November 1981	115,650	19,750	135,400	52,850	7,500	60,350	168,500	27,250	195,750
% Change Nov.1982:Nov.1981	-59.0	-22.5	-53.7	-58.6	-52.7	-57.8	-58.8	-30.8	-54.9
Year To Date 1982	805,400	173,250	978,650	338,250	59,900	398,150	1,143,650	233,150	1,376,800
Year To Date 1981	1,844,750	270,800	2,115,550	583,950	93,550	677,500	2,428,700	364,350	2,793,050
% Change 1982 : 1981	-56.3	-36.0	-53.7	-42.1	-36.0	-41.2	-52.9	-36.0	-50.7

SHIPMENTS -- MACHINE TOOLS
(Thousands of Dollars)

	METAL CUTTING			METAL FORMING			TOTAL Cutting and Forming		
	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total
Nov. 1982	134,800	20,900	155,700	33,700	4,100	37,800	168,500	25,000	193,500
Oct. 1982	132,300	18,300	150,600	42,250	7,850	50,100	174,550	26,150	200,700
% Change Nov.1982:Oct.1982	+1.9	+14.2	+3.4	-20.2	-47.8	-24.6	-3.5	-4.4	-3.6
November 1981	287,350	42,400	329,750	70,000	8,400	78,400	357,350	50,800	408,150
% Change Nov.1982:Nov.1981	-53.1	-50.7	-52.8	-51.9	-51.2	-51.8	-52.8	-50.8	-52.6
Year To Date 1982	2,414,400	276,050	2,690,450	558,250	91,550	649,800	2,972,650	367,600	3,340,250
Year To Date 1981	3,193,600	512,300	3,705,900	744,250	154,550	898,800	3,937,850	666,850	4,604,700
% Change 1982 : 1981	-24.4	-46.1	-27.4	-25.0	-40.8	-27.7	-24.5	-44.9	-27.5

Source: National Machine Tool Builders' Association

Form No. PRCC-2



TOTAL INDUSTRY ESTIMATE
MACHINE TOOLS - CUTTING AND FORMING
New Orders, Cancellations, Shipments and Backlog

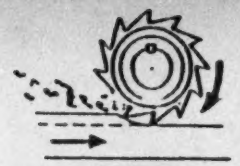
DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1982							
Jan.	$ 166,150,000	$ 39,050,000	$ 205,200,000	3,121.90	$ 334,100,000	$ 49,450,000	$ 383,550,000
Feb.	149,200,000	14,600,000	163,800,000	2,926.10	331,250,000	28,350,000	359,600,000
Mar.	116,950,000	20,850,000	137,800,000	2,652.85	376,200,000	34,850,000	411,050,000
Apr.	137,500,000	13,300,000	150,800,000	2,500.20	270,900,000	32,550,000	303,450,000
May	81,150,000	24,800,000	105,950,000	2,310.30	269,050,000	26,800,000	295,850,000
June	84,400,000	41,500,000	125,900,000	2,027.05	371,900,000	37,250,000	409,150,000
July	87,950,000	18,600,000	106,550,000	1,883.25	214,400,000	35,950,000	250,350,000
Aug.	71,950,000	14,550,000	86,500,000	1,712.55	223,200,000	34,000,000	257,200,000
Sept.	77,400,000	9,500,000	86,900,000	1,523.60	238,600,000	37,250,000	275,850,000
Oct.	101,650,000	17,550,000	119,200,000	1,442.10	174,550,000	26,150,000	200,700,000
Nov. (p)	69,350,000	18,850,000	88,200,000	1,336.80	168,500,000	25,000,000	193,500,000
11 mos.	$1,143,650,000	$ 233,150,000	$1,376,800,000		$2,972,650,000	$ 367,600,000	$3,340,250,000

DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1982						
Jan.	$ 198,900,000	$ 39,800,000	$ 238,700,000	$ 32,750,000	$ 750,000	$ 33,500,000
Feb.	175,200,000	17,200,000	192,400,000	26,000,000	2,600,000	28,600,000
Mar.	183,050,000	24,450,000	207,500,000	66,100,000	3,600,000	69,700,000
Apr.	186,500,000	16,650,000	203,150,000	49,000,000	3,350,000	52,350,000
May	120,400,000	27,200,000	147,600,000	39,250,000	2,400,000	41,650,000
June	123,950,000	44,650,000	168,600,000	39,550,000	3,150,000	42,700,000
July	122,600,000	20,650,000	143,250,000	34,650,000	2,050,000	36,700,000
Aug.	99,150,000	16,650,000	115,800,000	27,200,000	2,100,000	29,300,000
Sept.	101,950,000	11,900,000	113,850,000	24,550,000	2,400,000	26,950,000
Oct.	117,600,000	20,150,000	137,750,000	15,950,000	2,600,000	18,550,000
Nov. (p)	93,200,000	22,250,000	115,450,000	23,850,000	3,400,000	27,250,000
11 mos.	$1,522,500,000	$ 261,550,000	$1,784,050,000	$ 378,850,000	$ 28,400,000	$ 407,250,000

P - Preliminary

N.M.T.B.A. F - 1c

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.



INDUSTRY ESTIMATE
METAL CUTTING TYPE MACHINE TOOLS
New Orders, Cancellations, Shipments and Backlog

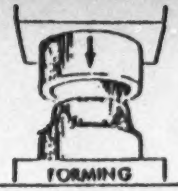
DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1982							
Jan.	$ 124,900,000	$ 31,050,000	$ 155,950,000	2,722.10	$ 284,500,000	$ 22,650,000	$ 307,150,000
Feb.	113,300,000	9,850,000	123,150,000	2,552.10	273,750,000	19,400,000	293,150,000
Mar.	90,200,000	15,550,000	105,750,000	2,325.10	303,050,000	29,700,000	332,750,000
Apr.	107,550,000	7,550,000	115,100,000	2,200.75	214,600,000	24,850,000	239,450,000
May	53,750,000	14,250,000	68,000,000	2,022.15	224,150,000	22,450,000	246,600,000
June	55,150,000	36,500,000	91,650,000	1,789.20	296,550,000	28,050,000	324,600,000
July	57,550,000	12,850,000	70,400,000	1,656.05	173,750,000	29,800,000	203,550,000
Aug.	49,250,000	11,200,000	60,450,000	1,504.00	184,300,000	28,200,000	212,500,000
Sept.	47,200,000	5,400,000	52,600,000	1,332.20	192,650,000	31,750,000	224,400,000
Oct.	59,100,000	13,750,000	72,850,000	1,254.45	132,300,000	18,300,000	150,600,000
Nov. (p)	47,450,000	15,300,000	62,750,000	1,161.50	134,800,000	20,900,000	155,700,000
11 mos.	$ 805,400,000	$ 173,250,000	$ 978,650,000		$2,414,400,000	$276,050,000	$2,690,450,000

DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1982						
Jan.	$ 153,550,000	$ 31,700,000	$ 185,250,000	$ 28,650,000	$ 650,000	$ 29,300,000
Feb.	137,600,000	12,400,000	150,000,000	24,300,000	2,550,000	26,850,000
Mar.	152,800,000	18,200,000	171,000,000	62,600,000	2,650,000	65,250,000
Apr.	153,100,000	9,600,000	162,700,000	45,550,000	2,050,000	47,600,000
May	89,750,000	15,400,000	105,150,000	36,000,000	1,150,000	37,150,000
June	92,550,000	38,850,000	131,400,000	37,400,000	2,350,000	39,750,000
July	91,300,000	14,850,000	106,150,000	33,750,000	2,000,000	35,750,000
Aug.	73,750,000	12,800,000	86,550,000	24,500,000	1,600,000	26,100,000
Sept.	70,900,000	7,300,000	78,200,000	23,700,000	1,900,000	25,600,000
Oct.	72,550,000	16,150,000	88,700,000	13,450,000	2,400,000	15,850,000
Nov. (p)	69,700,000	17,750,000	87,450,000	22,250,000	2,450,000	24,700,000
11 mos.	$1,157,550,000	$ 195,000,000	$1,352,550,000	$ 352,150,000	$ 21,750,000	$ 373,900,000

P - Preliminary

N.M.T.B.A. F - 1c

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.



INDUSTRY ESTIMATE
METAL FORMING TYPE MACHINE TOOLS
New Orders, Cancellations, Shipments and Backlog

DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1982							
Jan.	$ 41,250,000	$ 8,000,000	$ 49,250,000	399.80	$ 49,600,000	$ 26,800,000	$ 76,400,000
Feb.	35,900,000	4,750,000	40,650,000	374.00	57,500,000	8,950,000	66,450,000
Mar.	26,750,000	5,300,000	32,050,000	327.75	73,150,000	5,150,000	78,300,000
Apr.	29,950,000	5,750,000	35,700,000	299.45	56,300,000	7,700,000	64,000,000
May	27,400,000	10,550,000	37,950,000	288.15	44,900,000	4,350,000	49,250,000
June	29,250,000	5,000,000	34,250,000	237.85	75,350,000	9,200,000	84,550,000
July	30,400,000	5,750,000	36,150,000	227.20	40,650,000	6,150,000	46,800,000
Aug.	22,700,000	3,350,000	26,050,000	208.55	38,900,000	5,800,000	44,700,000
Sept.	30,200,000	4,100,000	34,300,000	191.40	45,950,000	5,500,000	51,450,000
Oct.	42,550,000	3,800,000	46,350,000	187.65	42,250,000	7,850,000	50,100,000
Nov. (p)	21,900,000	3,550,000	25,450,000	175.30	33,700,000	4,100,000	37,800,000
11 mos.	$ 338,250,000	$ 59,900,000	$ 398,150,000		$ 558,250,000	$ 91,550,000	$ 649,800,000

DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1982						
Jan.	$ 45,350,000	$ 8,100,000	$ 53,450,000	$ 4,100,000	$ 100,000	$ 4,200,000
Feb.	37,600,000	4,800,000	42,400,000	1,700,000	50,000	1,750,000
Mar.	30,250,000	6,250,000	36,500,000	3,500,000	950,000	4,450,000
Apr.	33,400,000	7,050,000	40,450,000	3,450,000	1,300,000	4,750,000
May	30,650,000	11,800,000	42,450,000	3,250,000	1,250,000	4,500,000
June	31,400,000	5,800,000	37,200,000	2,150,000	800,000	2,950,000
July	31,300,000	5,800,000	37,100,000	900,000	50,000	950,000
Aug.	25,400,000	3,850,000	29,250,000	2,700,000	500,000	3,200,000
Sept.	31,050,000	4,600,000	35,650,000	850,000	500,000	1,350,000
Oct.	45,050,000	4,000,000	49,050,000	2,500,000	200,000	2,700,000
Nov. (p)	23,500,000	4,500,000	28,000,000	1,600,000	950,000	2,550,000
11 mos.	$ 364,950,000	$ 66,550,000	$ 431,500,000	$ 26,700,000	$ 6,650,000	$ 33,350,000

P - Preliminary

N.M.T.B.A. F - 1d

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.

A8050-1 1/31/83

January 25, 1983

press release

Contact:
Charles Pollock

FOR RELEASE A.M. MONDAY, JANUARY 31, 1983

McLean, VA, Jan. 31, 1983 -- The American machine tool industry will close its books for 1982 with orders off almost 50% from 1981 levels. According to data released today by the National Machine Tool Builders' Association, total net new orders of metal-cutting and metal-forming tools decreased 49% for the twelve-month period ending December 31. Orders for the year were the lowest since 1975, reaching $1,498,550,000 compared to $2,944,850,000 in 1981.

Industry shipments were off 29% at $3,607,200,000, marking the first decrease in shipments in six years.

"It's a very alarming situation," commented NMTBA President, James A. Gray. "Our industry is being squeezed by a massive and unabated foreign intrusion on one side and a stagnant domestic economy on the other."

Gray pointed to the industry's drastic reduction in order backlog as another discouraging sign. "These extremely low backlog levels are bound to have a negative impact on 1983 shipments," Gray emphasized.

(over)

national machine tool builders association
7901 WESTPARK DRIVE
McLEAN, VIRGINIA 22102
AREA CODE (703) 893-2900
TWX: 710-831-0031 NMTBA MCLN

BEST AVAILABLE COPY

Machine tool orders for December 1982 increased 38% from the previous month, at a level of $121,750,000. Shipments for the month also registered a 38% rise compared to November of 1982. Total shipments for December were at $266,950,000.

In the metal-cutting machine tool category for December, shipments rose 33% to $207,100,000. Metal-cutting machine tool shipments for the year totaled $2,897,550,000 down 29% from 1981. Metal-cutting orders were up 38% for the month at $86,600,000, but down 52% for the year at $1,065,250,000.

December's metal-forming machine tool shipments increased 58% from the previous month at $59,850,000, but were down for the year by 28% at $709,650,000. Orders in the metal-forming category were up 38% at $35,150,000 for December, but slid 40% in 1982 for a total of $433,300,000.

# # # # #

COMPARISON CHART

NET NEW ORDERS -- MACHINE TOOLS
(Thousands of Dollars)

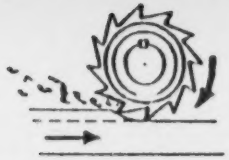
	METAL CUTTING			METAL FORMING			TOTAL Cutting and Forming		
	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total
Dec. 1982	85,000	1,600	86,600	33,500	1,650	35,150	118,500	3,250	121,750
Nov. 1982	47,450	15,300	62,750	21,900	3,550	25,450	69,350	18,850	88,200
% Change Dec.1982:Nov.1982	+79.1	-89.5	+38.0	+53.0	-53.5	+38.1	+70.9	-82.8	+38.0
December 1981	101,050	11,500	112,550	32,900	6,350	39,250	133,950	17,850	151,800
% Change Dec.1982:Dec.1981	-15.9	-86.1	-23.1	+1.8	-74.0	-10.4	-11.5	-81.8	-19.8
Year To Date 1982	890,400	174,850	1,065,250	371,750	61,550	433,300	1,262,150	236,400	1,498,550
Year To Date 1981	1,945,800	282,300	2,228,100	616,850	99,900	716,750	2,562,650	382,200	2,944,850
% Change 1982 : 1981	-54.2	-38.1	-52.2	-39.7	-38.4	-39.5	-50.7	-38.1	-49.1

SHIPMENTS -- MACHINE TOOLS
(Thousands of Dollars)

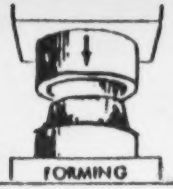
	METAL CUTTING			METAL FORMING			TOTAL Cutting and Forming		
	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total
Dec. 1982	187,150	19,950	207,100	41,500	18,350	59,850	228,650	38,300	266,950
Nov. 1982	134,800	20,900	155,700	33,700	4,100	37,800	168,500	25,000	193,500
% Change Dec.1982:Nov.1982	+38.8	-4.5	+33.0	+23.1	+347.6	+58.3	+35.7	+53.2	+38.0
December 1981	358,850	39,750	398,600	79,950	12,350	92,300	438,800	52,100	490,900
% Change Dec.1982:Dec.1981	-47.8	-49.8	-48.0	-48.1	+48.6	-35.2	-47.9	-26.5	-45.6
Year To Date 1982	2,601,550	296,000	2,897,550	599,750	109,900	709,650	3,201,300	405,900	3,607,200
Year To Date 1981	3,552,450	552,050	4,104,500	824,200	166,900	991,100	4,376,650	718,950	5,095,600
% Change 1982 : 1981	-26.8	-46.4	-29.4	-27.2	-34.2	-28.4	-26.9	-43.5	-29.2

Source: National Machine Tool Builders' Association

Form No. PRCC-2



TOTAL INDUSTRY ESTIMATE
MACHINE TOOLS - CUTTING AND FORMING
New Orders, Cancellations, Shipments and Backlog



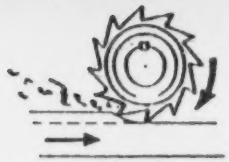
DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1982							
Jan.	$ 166,150,000	$ 39,050,000	$ 205,200,000	3,121.90	$ 334,100,000	$ 49,450,000	$ 383,550,000
Feb.	149,200,000	14,600,000	163,800,000	2,926.10	331,250,000	28,350,000	359,600,000
Mar.	116,950,000	20,850,000	137,800,000	2,652.85	376,200,000	34,850,000	411,050,000
Apr.	137,500,000	13,300,000	150,800,000	2,500.20	270,900,000	32,550,000	303,450,000
May	81,150,000	24,800,000	105,950,000	2,310.30	269,050,000	26,800,000	295,850,000
June	84,400,000	41,500,000	125,900,000	2,027.05	371,900,000	37,250,000	409,150,000
July	87,950,000	18,600,000	106,550,000	1,883.25	214,400,000	35,950,000	250,350,000
Aug.	71,950,000	14,550,000	86,500,000	1,712.55	223,200,000	34,000,000	257,200,000
Sept.	77,400,000	9,500,000	86,900,000	1,523.60	238,600,000	37,250,000	275,850,000
Oct.	101,650,000	17,550,000	119,200,000	1,442.10	174,550,000	26,150,000	200,700,000
Nov.	69,350,000	18,850,000	88,200,000	1,336.80	168,500,000	25,000,000	193,500,000
Dec. (P)	118,500,000	3,250,000	121,750,000	1,191.60	228,650,000	38,300,000	266,950,000
12 mos.	$1,262,150,000	$ 236,400,000	$1,498,550,000		$3,201,300,000	$ 405,900,000	$3,607,200,000

DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1982						
Jan.	$ 198,900,000	$ 39,800,000	$ 238,700,000	$ 32,750,000	$ 750,000	$ 33,500,000
Feb.	175,200,000	17,200,000	192,400,000	26,000,000	2,600,000	28,600,000
Mar.	183,050,000	24,450,000	207,500,000	66,100,000	3,600,000	69,700,000
Apr.	186,500,000	16,650,000	203,150,000	49,000,000	3,350,000	52,350,000
May	120,400,000	27,200,000	147,600,000	39,250,000	2,400,000	41,650,000
June	123,950,000	44,650,000	168,600,000	39,550,000	3,150,000	42,700,000
July	122,600,000	20,650,000	143,250,000	34,650,000	2,050,000	36,700,000
Aug.	99,150,000	16,650,000	115,800,000	27,200,000	2,100,000	29,300,000
Sept.	101,950,000	11,900,000	113,850,000	24,550,000	2,400,000	26,950,000
Oct.	117,600,000	20,150,000	137,750,000	15,950,000	2,600,000	18,550,000
Nov.	93,200,000	22,250,000	115,450,000	23,850,000	3,400,000	27,250,000
Dec. (P)	139,300,000	11,300,000	150,600,000	20,800,000	8,050,000	28,850,000
12 mos.	$1,661,800,000	$ 272,850,000	$1,934,650,000	$ 399,650,000	$ 36,450,000	$ 436,100,000

P - Preliminary

N.M.T.B.A. F - 1c

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.



INDUSTRY ESTIMATE
METAL CUTTING TYPE MACHINE TOOLS
New Orders, Cancellations, Shipments and Backlog

DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1982							
Jan.	$ 124,900,000	$ 31,050,000	$ 155,950,000	2,722.10	$ 284,500,000	$ 22,650,000	$ 307,150,000
Feb.	113,300,000	9,850,000	123,150,000	2,552.10	273,750,000	19,400,000	293,150,000
Mar.	90,200,000	15,550,000	105,750,000	2,325.10	303,050,000	29,700,000	332,750,000
Apr.	107,550,000	7,550,000	115,100,000	2,200.75	214,600,000	24,850,000	239,450,000
May	53,750,000	14,250,000	68,000,000	2,022.15	224,150,000	22,450,000	246,600,000
June	55,150,000	36,500,000	91,650,000	1,789.20	296,550,000	28,050,000	324,600,000
July	57,550,000	12,850,000	70,400,000	1,656.05	173,750,000	29,800,000	203,550,000
Aug.	49,250,000	11,200,000	60,450,000	1,504.00	184,300,000	28,200,000	212,500,000
Sept.	47,200,000	5,400,000	52,600,000	1,332.20	192,650,000	31,750,000	224,400,000
Oct.	59,100,000	13,750,000	72,850,000	1,254.45	132,300,000	18,300,000	150,600,000
Nov.	47,450,000	15,300,000	62,750,000	1,161.50	134,800,000	20,900,000	155,700,000
Dec. (P)	85,000,000	1,600,000	86,600,000	1,041.00	187,150,000	19,950,000	207,100,000
12 mos.	$ 890,400,000	$ 174,850,000	$1,065,250,000		$2,601,550,000	$296,000,000	$2,897,550,000

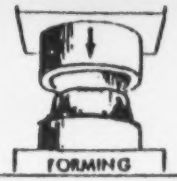
DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1982						
Jan.	$ 153,550,000	$ 31,700,000	$ 185,250,000	$ 28,650,000	$ 650,000	$ 29,300,000
Feb.	137,600,000	12,400,000	150,000,000	24,300,000	2,550,000	26,850,000
Mar.	152,800,000	18,200,000	171,000,000	62,600,000	2,650,000	65,250,000
Apr.	153,100,000	9,600,000	162,700,000	45,550,000	2,050,000	47,600,000
May	89,750,000	15,400,000	105,150,000	36,000,000	1,150,000	37,150,000
June	92,550,000	38,850,000	131,400,000	37,400,000	2,350,000	39,750,000
July	91,300,000	14,850,000	106,150,000	33,750,000	2,000,000	35,750,000
Aug.	73,750,000	12,800,000	86,550,000	24,500,000	1,600,000	26,100,000
Sept.	70,900,000	7,300,000	78,200,000	23,700,000	1,900,000	25,600,000
Oct.	72,550,000	16,150,000	88,700,000	13,450,000	2,400,000	15,850,000
Nov.	69,700,000	17,750,000	87,450,000	22,250,000	2,450,000	24,700,000
Dec. (P)	104,800,000	9,550,000	114,350,000	19,800,000	7,950,000	27,750,000
12 mos.	$1,262,350,000	$ 204,550,000	$1,466,900,000	$ 371,950,000	$ 29,700,000	$ 401,650,000

P - Preliminary

N.M.T.B.A. F - 1c

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.

INDUSTRY ESTIMATE
METAL FORMING TYPE MACHINE TOOLS
New Orders, Cancellations, Shipments and Backlog



DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1982							
Jan.	$ 41,250,000	$ 8,000,000	$ 49,250,000	399.80	$ 49,600,000	$ 26,800,000	$ 76,400,000
Feb.	35,900,000	4,750,000	40,650,000	374.00	57,500,000	8,950,000	66,450,000
Mar.	26,750,000	5,300,000	32,050,000	327.75	73,150,000	5,150,000	78,300,000
Apr.	29,950,000	5,750,000	35,700,000	299.45	56,300,000	7,700,000	64,000,000
May	27,400,000	10,550,000	37,950,000	288.15	44,900,000	4,350,000	49,250,000
June	29,250,000	5,000,000	34,250,000	237.85	75,350,000	9,200,000	84,550,000
July	30,400,000	5,750,000	36,150,000	227.20	40,650,000	6,150,000	46,800,000
Aug.	22,700,000	3,350,000	26,050,000	208.55	38,900,000	5,800,000	44,700,000
Sept.	30,200,000	4,100,000	34,300,000	191.40	45,950,000	5,500,000	51,450,000
Oct.	42,550,000	3,800,000	46,350,000	187.65	42,250,000	7,850,000	50,100,000
Nov.	21,900,000	3,550,000	25,450,000	175.30	33,700,000	4,100,000	37,800,000
Dec. (P)	33,500,000	1,650,000	35,150,000	150.60	41,500,000	18,350,000	59,850,000
12 mos.	$ 371,750,000	$ 61,550,000	$ 433,300,000		$ 599,750,000	$ 109,900,000	$ 709,650,000

DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1982						
Jan.	$ 45,350,000	$ 8,100,000	$ 53,450,000	$ 4,100,000	$ 100,000	$ 4,200,000
Feb.	37,600,000	4,800,000	42,400,000	1,700,000	50,000	1,750,000
Mar.	30,250,000	6,250,000	36,500,000	3,500,000	950,000	4,450,000
Apr.	33,400,000	7,050,000	40,450,000	3,450,000	1,300,000	4,750,000
May	30,650,000	11,800,000	42,450,000	3,250,000	1,250,000	4,500,000
June	31,400,000	5,800,000	37,200,000	2,150,000	800,000	2,950,000
July	31,300,000	5,800,000	37,100,000	900,000	50,000	950,000
Aug.	25,400,000	3,850,000	29,250,000	2,700,000	500,000	3,200,000
Sept.	31,050,000	4,600,000	35,650,000	850,000	500,000	1,350,000
Oct.	45,050,000	4,000,000	49,050,000	2,500,000	200,000	2,700,000
Nov.	23,500,000	4,500,000	28,000,000	1,600,000	950,000	2,550,000
Dec. (P)	34,500,000	$ 1,750,000	36,250,000	1,000,000	100,000	1,100,000
12 mos.	$ 399,450,000	$ 68,300,000	$ 467,750,000	$ 27,700,000	$ 6,750,000	$ 34,450,000

P - Preliminary

N.M.T.B.A. F - 1d

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.

QUARTERLY AND YEARLY SHIPMENTS AND NET NEW ORDERS OF MACHINE TOOLS
(DOLLAR FIGURES IN THOUSANDS)
1977 TO DATE

	CUTTING AND FORMING			CUTTING			FORMING		
	SHIPMENTS		NET	SHIPMENTS		NET	SHIPMENTS		NET
DATE	Total	Foreign	NEW ORDERS	Total	Foreign	NEW ORDERS	Total	Foreign	NEW ORDERS
1977-1	$ 496,900	$ 63,100	$ 667,450	$ 336,100	$ 38,550	$ 489,000	$ 160,800	$ 24,550	$ 178,450
2	584,700	58,400	770,550	410,800	45,150	583,700	173,900	13,250	186,850
3	524,050	48,050	725,850	395,150	35,850	496,200	128,900	12,200	229,650
4	675,100	81,000	831,500	508,750	61,400	633,150	166,350	19,600	190,350
Total	$2,280,750	$250,550	$2,995,350	$1,650,800	$180,950	$2,202,050	$ 629,950	$ 69,600	$ 793,300
1978-1	$ 683,200	$ 62,300	$ 940,050	$ 503,850	$ 44,200	$ 723,850	$ 179,350	$ 18,100	$ 216,200
2	791,600	79,050	1,129,950	584,200	57,250	886,550	207,400	21,800	243,400
3	687,550	77,750	1,027,650	498,050	59,200	776,950	189,500	18,550	250,700
4	851,100	105,750	1,250,850	602,400	67,750	988,100	248,700	38,000	262,750
Total	$3,013,450	$324,850	$4,348,500	$2,188,500	$228,400	$3,375,450	$ 824,950	$ 96,450	$ 973,050
1979-1	$ 858,050	$ 88,300	$1,471,400	$ 633,450	$ 69,000	$1,158 250	$ 224,600	$ 19,300	$ 313,150
2	978,200	109,150	1,356,450	735,750	87,650	1,083,550	242,450	21,500	272,900
3	899,850	97,050	1,353,200	689,850	78,500	1,120,500	210,000	18,550	232,700
4	1,140,450	116,750	1,440,400	871,000	89,400	1,132,800	269,450	27,350	307,600
Total	$3,876,550	$411,250	$5,621,450	$2,930,050	$324,550	$4,495,100	$ 946,500	$ 86,700	$1,126,350
1980-1	$1,146,150	$115,700	$1,517,450	$ 881,400	$ 86,750	$1,207,800	$ 264,750	$ 28,950	$ 309,650
2	1,193,300	155,550	1,335,350	925,350	122,850	1,142,100	267,950	32,700	193,250
3	1,049,050	133,850	917,500	830,450	102,650	728,300	218,600	31,200	189,200
4	1,303,250	202,400	984,000	1,043,600	162,550	806,550	259,650	39,850	177,450
Total	$4,691,750	$607,500	$4,754,300	$3,680,800	$474,800	$3,884,750	$1,010,950	$ 132,700	$ 869,550
1981-1	$1,288,200	$210,800	$ 920,350	$1,017,850	$155,600	$ 706,600	$ 270,350	$ 55,200	$ 213,750
2	1,367,500	236,350	867,000	1,103,400	185,450	661,200	264,100	50,900	205,800
3	1,133,950	127,950	593,450	920,300	99,950	455,250	213,650	28,000	138,200
4	1,305,950	143,850	564,050	1,062,950	111,050	405,050	243,000	32,800	159,000
Total	$5,095,600	$718,950	$2,944,850	$4,104,500	$552,050	$2,228,100	$ 991,100	$ 166,900	$ 716,750
1982-1	$1,154,200	$112,650	$ 506,800	$ 933,050	$ 71,750	$ 384,850	$ 221,150	$ 40,900	$ 121,950
2	1,008,450	96,600	382,650	810,650	75,350	274,750	197,800	21,250	107,900
3	783,400	107,200	279,950	640,450	89,750	183,450	142,950	17,450	96,500
4P	661,150	89,450	329,150	513,400	59,150	222,200	147,750	30,300	106,950
Total	$3,607,200	$405,900	$1,498,550	$2,897,550	$296,000	$1,065,250	$ 709,650	$ 109,900	$ 433,300

P - Preliminary

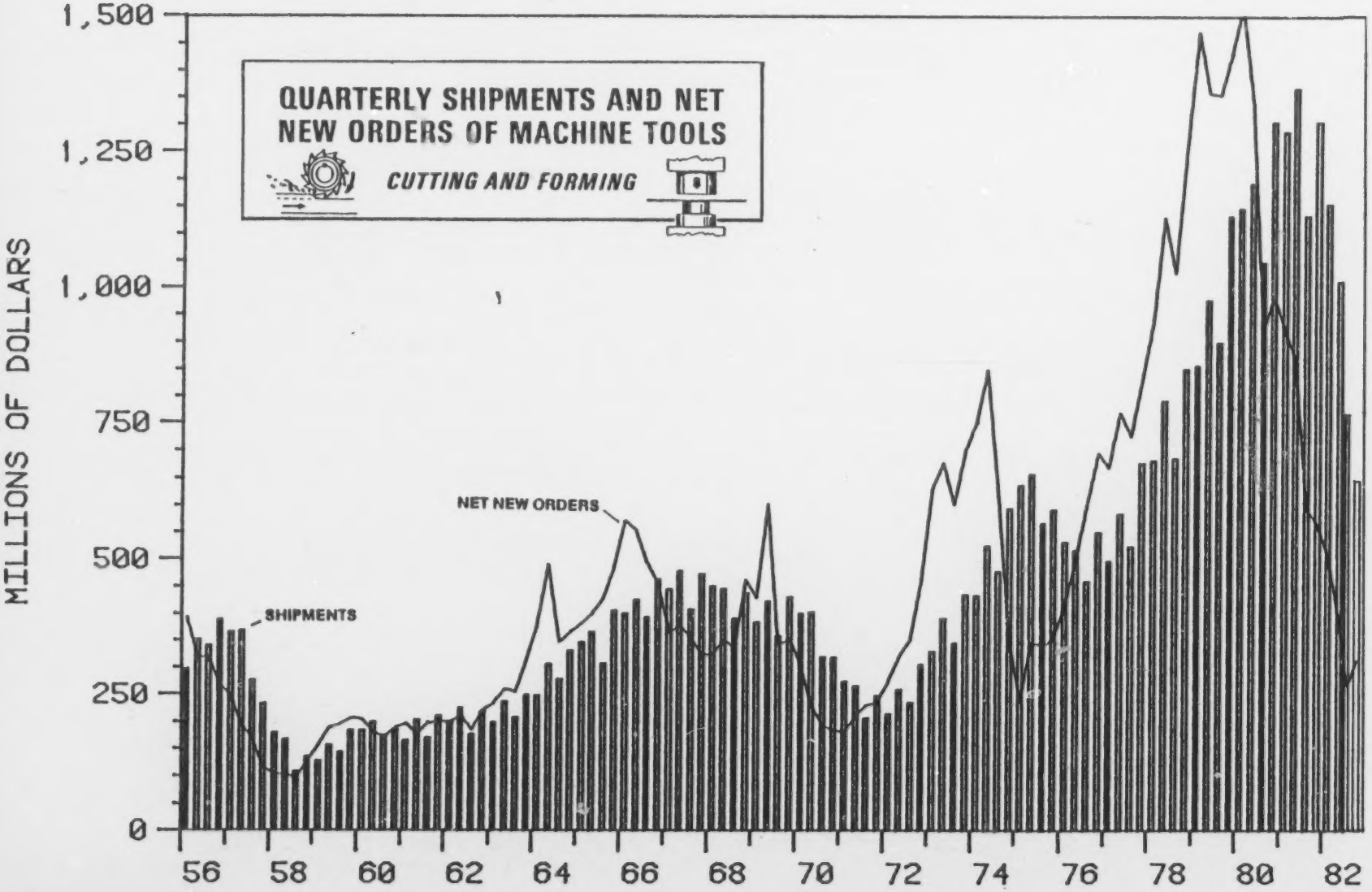
NOTE: These data series are available back to 1956. To obtain a copy of the tables for 1956 through 1981, contact: NMTBA Statistical Department, 7901 Westpark Drive, McLean, Virginia 22102. Phone: 703:893-2900

Source: National Machine Tool Builders' Association

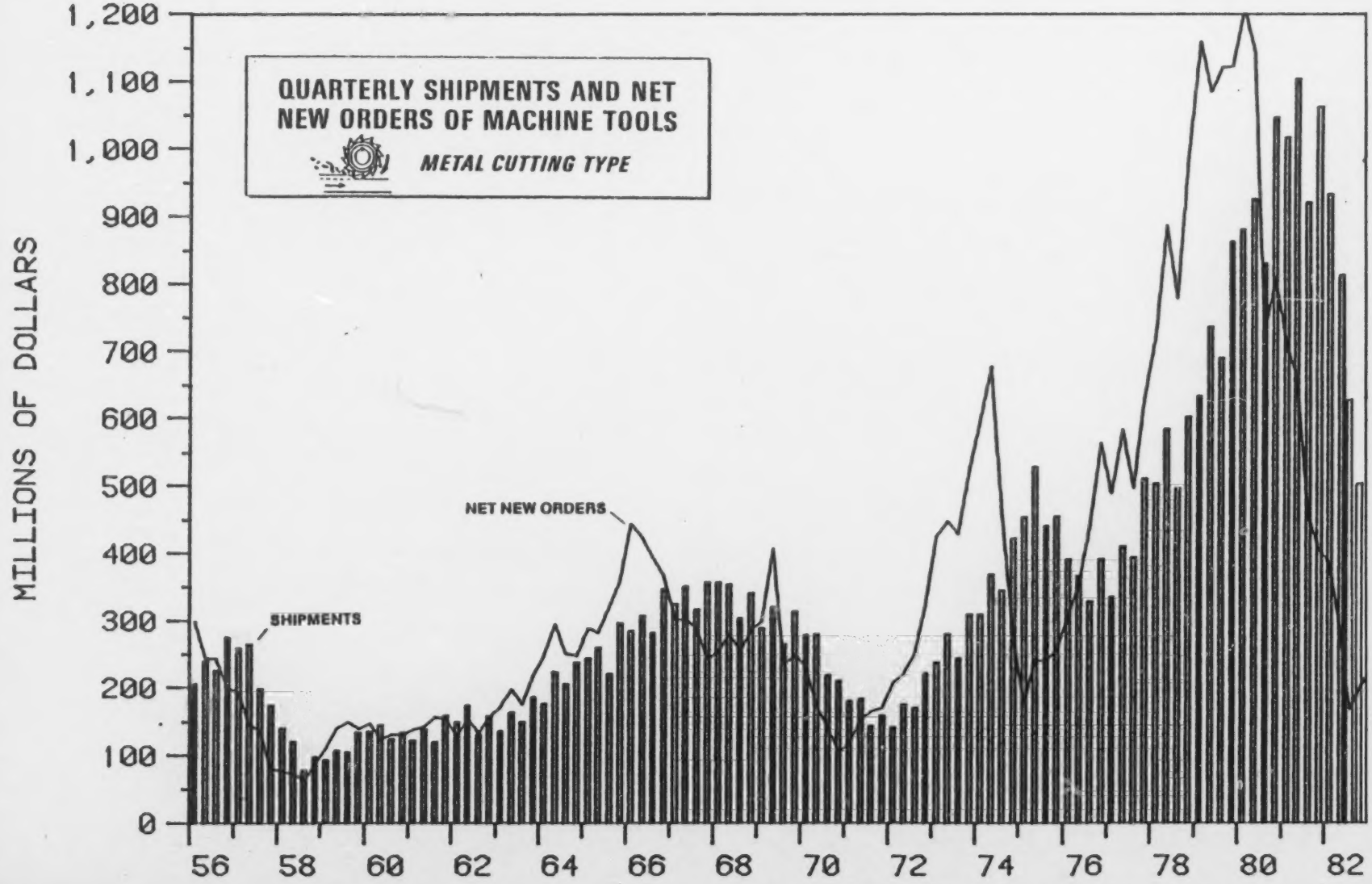
January 31, 1983

BEST AVAILABLE COPY

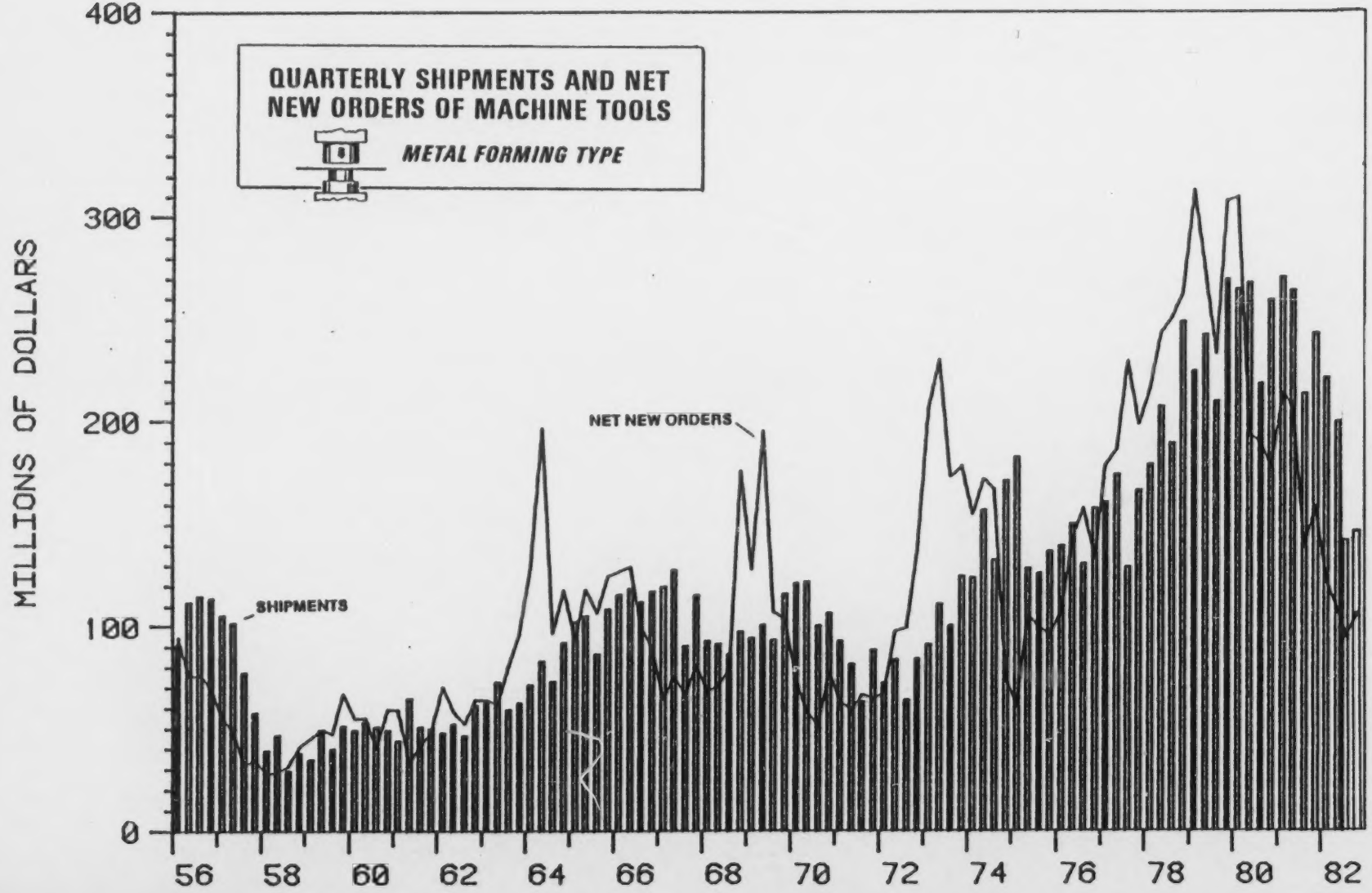
MACHINE TOOL INDUSTRY
SHIPMENTS (BAR) AND NET NEW ORDERS (LINE)



METAL CUTTING MACHINE TOOL
SHIPMENTS (BAR) AND NET NEW ORDERS (LINE)



METAL FORMING MACHINE TOOL
SHIPMENTS (BAR) AND NET NEW ORDERS (LINE)



A8050-1 2/28/83

February 22, 1983

press release

FOR RELEASE A.M. MONDAY, FEBRUARY 28, 1983

McLean, VA, Feb. 22, 1983 -- Orders for U.S. machine tools dropped by 24% in January from the previous month, and were 55% below their January 1982 level, according to data released today by the National Machine Tool Builders' Association. January orders for metal-cutting and metal-forming machine tools reached $91,550,000 compared to a December total of $120,950,000.

Industry shipments were off 42% from December, at a total value of $153,050,000. This shipment rate was 60% below January 1982's shipments.

"Our industry went into the current recession somewhat later than many others," said James A. Gray, President of the National Machine Tool Builders' Association. "So we continue to feel its full impact. Right now the machine tool industry is severely crippled," Gray said. "Economic recovery -- to any extent -- could not arrive too soon for us."

(over)

Contact:
Charles Pollock

national machine tool builders association
7901 WESTPARK DRIVE
McLEAN, VIRGINIA 22102
AREA CODE (703) 893-2900
TWX: 710-831-0031 NMTBA MCLN

BEST AVAILABLE COPY

January net new orders for metal-cutting machine tools decreased 33% at $57,550,000 while metal-cutting shipments declined 47% at $108,250,000. Metal-forming machine tool orders were down 3% in January, totaling $34,000,000, with shipments in the category off 25% at $44,800,000.

The machine tool industry's order backlog continued to fall in January, ending the month at $1,132,100,000.

# # # # #

COMPARISON CHART

NET NEW ORDERS -- MACHINE TOOLS
(Thousands of Dollars)

	METAL CUTTING			METAL FORMING			TOTAL Cutting and Forming		
	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total
Jan. 1983	51,950	5,600	57,550	28,150	5,850	34,000	80,100	11,450	91,550
Dec. 1982	84,200	1,600	85,800	33,500	1,650	35,150	117,700	3,250	120,950
% Change Jan.1983:Dec.1982	-38.3	+250.0	-32.9	-16.0	+254.5	-3.3	-31.9	+252.3	-24.3
January 1982	124,900	31,050	155,950	41,250	8,000	49,250	166,150	39,050	205,200
% Change Jan.1983:Jan.1982	-58.4	-82.0	-63.1	-31.8	-26.9	-31.0	-51.8	-70.7	-55.4
Year To Date 1983									
Year To Date 1982		N/A			N/A			N/A	
% Change 1983 : 1982									

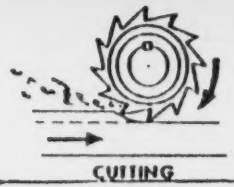
SHIPMENTS -- MACHINE TOOLS
(Thousands of Dollars)

	METAL CUTTING			METAL FORMING			TOTAL Cutting and Forming		
	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total
Jan. 1983	94,450	13,800	108,250	37,600	7,200	44,800	132,050	21,000	153,050
Dec. 1982	184,200	20,100	204,300	41,500	18,350	59,850	225,700	38,450	264,150
% Change Jan.1983:Dec.1982	-48.7	-31.3	-47.0	-9.4	-60.8	-25.1	-41.5	-45.4	-42.1
January 1982	284,500	22,650	307,150	49,600	26,800	76,400	334,100	49,450	383,550
% Change Jan.1983:Jan.1982	-66.8	-39.1	-64.8	-24.2	-73.1	-41.4	-60.5	-57.5	-60.1
Year To Date 1983									
Year To Date 1982		N/A			N/A			N/A	
% Change 1983 : 1982									

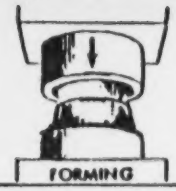
Source: National Machine Tool Builders' Association

Form No. PRCC-2

BEST AVAILABLE COPY



TOTAL INDUSTRY ESTIMATE
MACHINE TOOLS - CUTTING AND FORMING
New Orders, Cancellations, Shipments and Backlog



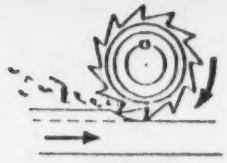
DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1983							
Jan. (p)	$ 80,100,000	$ 11,450,000	$ 91,550,000	1,132.10	$ 132,050,000	$ 21,000,000	$ 153,050,000

DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1983						
Jan. (p)	$ 93,400,000	$ 12,400,000	$ 105,800,000	$ 13,300,000	$ 950,000	$ 14,250,000

P - Preliminary

N.M.T.B.A. F - 1c

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.



INDUSTRY ESTIMATE
METAL CUTTING TYPE MACHINE TOOLS
New Orders, Cancellations, Shipments and Backlog

DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1983							
Jan. (p)	$ 51,950,000	$ 5,600,000	$ 57,550,000	992.30	$ 94,450,000	$ 13,800,000	$ 108,250,000

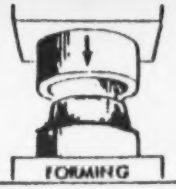
DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1983						
Jan. (p)	$ 63,500,000	$ 5,950,000	$ 69,450,000	$ 11,550,000	$ 350,000	$ 11,900,000

P - Preliminary

N.M.T.B.A. F - 1c

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.

INDUSTRY ESTIMATE
METAL FORMING TYPE MACHINE TOOLS
New Orders, Cancellations, Shipments and Backlog



DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1983							
Jan. (p)	$ 28,150,000	$ 5,850,000	$ 34,000,000	139.80	$ 37,600,000	$ 7,200,000	$ 44,800,000

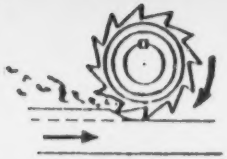
DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1983						
Jan. (p)	$ 29,900,000	$ 6,450,000	$ 36,350,000	$ 1,750,000	$ 600,000	$ 2,350,000

P - Preliminary

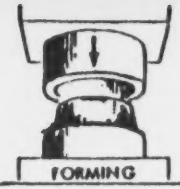
N.M.T.B.A. F - 1d

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.

BEST AVAILABLE COPY



TOTAL INDUSTRY ESTIMATE
MACHINE TOOLS - CUTTING AND FORMING
New Orders, Cancellations, Shipments and Backlog



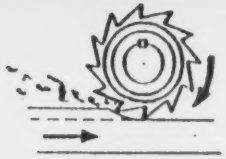
DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1982							
Jan.	$ 166,150,000	$ 39,050,000	$ 205,200,000	3,121.90	$ 334,100,000	$ 49,450,000	$ 383,550,000
Feb.	149,200,000	14,600,000	163,800,000	2,926.10	331,250,000	28,350,000	359,600,000
Mar.	116,950,000	20,850,000	137,800,000	2,652.85	376,200,000	34,850,000	411,050,000
Apr.	137,500,000	13,300,000	150,800,000	2,500.20	270,900,000	32,550,000	303,450,000
May	81,150,000	24,800,000	105,950,000	2,310.30	269,050,000	26,800,000	295,850,000
June	84,400,000	41,500,000	125,900,000	2,027.05	371,900,000	37,250,000	409,150,000
July	87,950,000	18,600,000	106,550,000	1,883.25	214,400,000	35,950,000	250,350,000
Aug.	71,950,000	14,550,000	86,500,000	1,712.55	223,200,000	34,000,000	257,200,000
Sept.	77,400,000	9,500,000	86,900,000	1,523.60	238,600,000	37,250,000	275,850,000
Oct.	101,650,000	17,550,000	119,200,000	1,442.10	174,550,000	26,150,000	200,700,000
Nov.	69,350,000	18,850,000	88,200,000	1,336.80	168,500,000	25,000,000	193,500,000
Dec.	117,700,000	3,250,000	120,950,000	1,193.60	225,700,000	38,450,000	264,150,000
12 mos.	$1,261,350,000	$ 236,400,000	$1,497,750,000		$3,198,350,000	$ 406,050,000	$3,604,400,000

DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1982						
Jan.	$ 198,900,000	$ 39,800,000	$ 238,700,000	$ 32,750,000	$ 750,000	$ 33,500,000
Feb.	175,200,000	17,200,000	192,400,000	26,000,000	2,600,000	28,600,000
Mar.	183,050,000	24,450,000	207,500,000	66,100,000	3,600,000	69,700,000
Apr.	186,500,000	16,650,000	203,150,000	49,000,000	3,350,000	52,350,000
May	120,400,000	27,200,000	147,600,000	39,250,000	2,400,000	41,650,000
June	123,950,000	44,650,000	168,600,000	39,550,000	3,150,000	42,700,000
July	122,600,000	20,650,000	143,250,000	34,650,000	2,050,000	36,700,000
Aug.	99,150,000	16,650,000	115,800,000	27,200,000	2,100,000	29,300,000
Sept.	101,950,000	11,900,000	113,850,000	24,550,000	2,400,000	26,950,000
Oct.	117,600,000	20,150,000	137,750,000	15,950,000	2,600,000	18,550,000
Nov.	93,200,000	22,250,000	115,450,000	23,850,000	3,400,000	27,250,000
Dec.	139,200,000	11,200,000	150,400,000	21,500,000	7,950,000	29,450,000
12 mos.	$1,661,700,000	$ 272,750,000	$1,934,450,000	$ 400,350,000	$ 36,350,000	$ 436,700,000

P - Preliminary

N.M.T.B.A. F - 1c

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.



INDUSTRY ESTIMATE
METAL CUTTING TYPE MACHINE TOOLS
New Orders, Cancellations, Shipments and Backlog

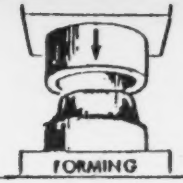
DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1982							
Jan.	$ 124,900,000	$ 31,050,000	$ 155,950,000	2,722.10	$ 284,500,000	$ 22,650,000	$ 307,150,000
Feb.	113,300,000	9,850,000	123,150,000	2,552.10	273,750,000	19,400,000	293,150,000
Mar.	90,200,000	15,550,000	105,750,000	2,325.10	303,050,000	29,700,000	332,750,000
Apr.	107,550,000	7,550,000	115,100,000	2,200.75	214,600,000	24,850,000	239,450,000
May	53,750,000	14,250,000	68,000,000	2,022.15	224,150,000	22,450,000	246,600,000
June	55,150,000	36,500,000	91,650,000	1,789.20	296,550,000	28,050,000	324,600,000
July	57,550,000	12,850,000	70,400,000	1,656.05	173,750,000	29,800,000	203,550,000
Aug.	49,250,000	11,200,000	60,450,000	1,504.00	184,300,000	28,200,000	212,500,000
Sept.	47,200,000	5,400,000	52,600,000	1,332.20	192,650,000	31,750,000	224,400,000
Oct.	59,100,000	13,750,000	72,850,000	1,254.45	132,300,000	18,300,000	150,600,000
Nov.	47,450,000	15,300,000	62,750,000	1,161.50	134,800,000	20,900,000	155,700,000
Dec.	84,200,000	1,600,000	85,800,000	1,043.00	184,200,000	20,100,000	204,300,000
12 mos.	$ 889,600,000	$ 174,850,000	$1,064,450,000		$2,598,600,000	$296,150,000	$2,894,750,000

DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1982						
Jan.	$ 153,550,000	$ 31,700,000	$ 185,250,000	$ 28,650,000	$ 650,000	$ 29,300,000
Feb.	137,600,000	12,400,000	150,000,000	24,300,000	2,550,000	26,850,000
Mar.	152,800,000	18,200,000	171,000,000	62,600,000	2,650,000	65,250,000
Apr.	153,100,000	9,600,000	162,700,000	45,550,000	2,050,000	47,600,000
May	89,750,000	15,400,000	105,150,000	36,000,000	1,150,000	37,150,000
June	92,550,000	38,850,000	131,400,000	37,400,000	2,350,000	39,750,000
July	91,300,000	14,850,000	106,150,000	33,750,000	2,000,000	35,750,000
Aug.	73,750,000	12,800,000	86,550,000	24,500,000	1,600,000	26,100,000
Sept.	70,900,000	7,300,000	78,200,000	23,700,000	1,900,000	25,600,000
Oct.	72,550,000	16,150,000	88,700,000	13,450,000	2,400,000	15,850,000
Nov.	69,700,000	17,750,000	87,450,000	22,250,000	2,450,000	24,700,000
Dec.	104,700,000	9,450,000	114,150,000	20,500,000	7,850,000	28,350,000
12 mos.	$1,262,250,000	$ 204,450,000	$1,466,700,000	$ 372,650,000	$ 29,600,000	$ 402,250,000

P - Preliminary

N.M.T.B.A. F - 1c

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.



INDUSTRY ESTIMATE
METAL FORMING TYPE MACHINE TOOLS
New Orders, Cancellations, Shipments and Backlog

DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1982							
Jan.	$ 41,250,000	$ 8,000,000	$ 49,250,000	399.80	$ 49,600,000	$ 26,800,000	$ 76,400,000
Feb.	35,900,000	4,750,000	40,650,000	374.00	57,500,000	8,950,000	66,450,000
Mar.	26,750,000	5,300,000	32,050,000	327.75	73,150,000	5,150,000	78,300,000
Apr.	29,950,000	5,750,000	35,700,000	299.45	56,300,000	7,700,000	64,000,000
May	27,400,000	10,550,000	37,950,000	288.15	44,900,000	4,350,000	49,250,000
June	29,250,000	5,000,000	34,250,000	237.85	75,350,000	9,200,000	84,550,000
July	30,400,000	5,750,000	36,150,000	227.20	40,650,000	6,150,000	46,800,000
Aug.	22,700,000	3,350,000	26,050,000	208.55	38,900,000	5,800,000	44,700,000
Sept.	30,200,000	4,100,000	34,300,000	191.40	45,950,000	5,500,000	51,450,000
Oct.	42,550,000	3,800,000	46,350,000	187.65	42,250,000	7,850,000	50,100,000
Nov.	21,900,000	3,550,000	25,450,000	175.30	33,700,000	4,100,000	37,800,000
Dec.	33,500,000	1,650,000	35,150,000	150.60	41,500,000	18,350,000	59,850,000
12 mos.	$ 371,750,000	$ 61,550,000	$ 433,300,000		$ 599,750,000	$ 109,900,000	$ 709,650,000

DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1982						
Jan.	$ 45,350,000	$ 8,100,000	$ 53,450,000	$ 4,100,000	$ 100,000	$ 4,200,000
Feb.	37,600,000	4,800,000	42,400,000	1,700,000	50,000	1,750,000
Mar.	30,250,000	6,250,000	36,500,000	3,500,000	950,000	4,450,000
Apr.	33,400,000	7,050,000	40,450,000	3,450,000	1,300,000	4,750,000
May	30,650,000	11,800,000	42,450,000	3,250,000	1,250,000	4,500,000
June	31,400,000	5,800,000	37,200,000	2,150,000	800,000	2,950,000
July	31,300,000	5,800,000	37,100,000	900,000	50,000	950,000
Aug.	25,400,000	3,850,000	29,250,000	2,700,000	500,000	3,200,000
Sept.	31,050,000	4,600,000	35,650,000	850,000	500,000	1,350,000
Oct.	45,050,000	4,000,000	49,050,000	2,500,000	200,000	2,700,000
Nov.	23,500,000	4,500,000	28,000,000	1,600,000	950,000	2,550,000
Dec.	34,500,000	$ 1,750,000	36,250,000	1,000,000	100,000	1,100,000
12 mos.	$ 399,450,000	$ 68,300,000	$ 467,750,000	$ 27,700,000	$ 6,750,000	$ 34,450,000

P - Preliminary

N.M.T.B.A. F - 1d

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.

A8050-1 3/28/83

FOR RELEASE A.M. MONDAY, March 28, 1983

McLean, VA, March 21, 1983 -- Net new orders for U.S. machine tools rose 7% in February compared to the previous month, according to data released today by the National Machine Tool Builders' Association. However, the monthly order total of $98 million for American-made metal-cutting and metal-forming machine tools was down 40% from February a year ago.

Machine tool shipments for the month also increased slightly (4%) to a total value of $158,500,000. This February shipment total was, however, 56% lower than during the same month last year.

"Our industry is still in a very precarious position," said James A. Gray, president of NMTBA. "This year's shipments will ultimately reflect last year's orders -- and that means they will drop sharply, in the face of a steadily shrinking backlog."

(over)

national machine tool builders association
7901 WESTPARK DRIVE
McLEAN, VIRGINIA 22102
AREA CODE (703) 893-2900
TWX: 710-831-0031 NMTBA MCLN

BEST AVAILABLE COPY

"Although February's slight increase in new orders indicates we may have finally hit bottom, 1983 will be a very tough year for American builders," Gray emphasized. "Foreign inventories of machine tools that are being sold at bargain basement prices threaten the industry as much as a slow economic recovery or high interest rates."

February orders in the metal-cutting machine tool category rose 37% at $77,900,000, while shipments increased 20% at $128,950,000. However, monthly metal-cutting orders were off 37% from February a year ago, with shipments in the category down 56% compared to February, 1982.

In the metal-forming category, orders declined 42% for the month at $20,100,000 and shipments fell 35% at $29,550,000. Metal-forming orders were off 51% compared to last February, with shipments down 56% for the same period.

At the end of Feburary, total industry backlog had declined to $1,072,100,000, which represents less than seven months production at the February rate.

# # # # #

COMPARISON CHART

NET NEW ORDERS -- MACHINE TOOLS
(Thousands of Dollars)

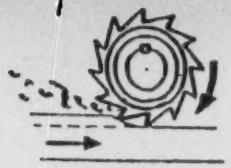
	METAL CUTTING			METAL FORMING			TOTAL Cutting and Forming		
	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total
Feb. 1983	70,050	7,850	77,900	18,700	1,400	20,100	88,750	9,250	98,000
Jan. 1983	51,350	5,700	57,050	28,950	5,850	34,800	80,300	11,550	91,850
% Change Feb.1983:Jan.1983	+36.4	+37.7	+36.5	-35.4	-76.1	-42.2	+10.5	-19.9	+6.7
February 1982	113,300	9,850	123,150	35,900	4,750	40,650	149,200	14,600	163,800
% Change Feb.1983:Feb.1982	-38.2	-20.3	-36.7	-47.9	-70.5	-50.6	-40.5	-36.6	-40.2
Year To Date 1983	121,400	13,550	134,950	47,650	7,250	54,900	169,050	20,800	189,850
Year To Date 1982	238,200	40,900	279,100	77,150	12,750	89,900	315,350	53,650	369,000
% Change 1983 : 1982	-49.0	-66.9	-51.6	-38.2	-43.1	-38.9	-46.4	-61.2	-48.6

SHIPMENTS -- MACHINE TOOLS
(Thousands of Dollars)

	METAL CUTTING			METAL FORMING			TOTAL Cutting and Forming		
	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total
Feb. 1983	116,850	12,100	128,950	26,550	3,000	29,550	143,400	15,100	158,500
Jan. 1983	93,400	14,000	107,400	38,050	7,400	45,450	131,450	21,400	152,850
% Change Feb.1983:Jan.1983	+25.1	-13.6	+20.1	-30.2	-59.5	-35.0	+9.1	-29.4	+3.7
February 1982	273,750	19,400	293,150	57,500	8,950	66,450	331,250	28,350	359,600
% Change Feb.1983:Feb.1982	-57.3	-37.6	-56.0	-53.8	-66.5	-55.5	-56.7	-46.7	-55.9
Year To Date 1983	210,250	26,100	236,350	64,600	10,400	75,000	274,850	36,500	311,350
Year To Date 1982	558,250	42,050	600,300	107,100	35,750	142,850	665,350	77,800	743,150
% Change 1983 : 1982	-62.3	-37.9	-60.6	-39.7	-70.9	-47.5	-58.7	-53.1	-58.1

Source: National Machine Tool Builders' Association

Form No. PRCC-2



TOTAL INDUSTRY ESTIMATE
MACHINE TOOLS - CUTTING AND FORMING
New Orders, Cancellations, Shipments and Backlog

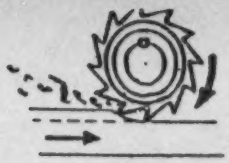
DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1983							
Jan.	$ 80,300,000	$ 11,550,000	$ 91,850,000	1,132.60	$ 131,450,000	$ 21,400,000	$ 152,850,000
Feb. (p)	$ 88,750,000	$ 9,250,000	$ 98,000,000	1,072.10	$ 143,400,000	$ 15,100,000	$ 158,500,000
	$ 169,050,000	$ 20,800,000	$ 189,850,000		$ 274,850,000	$ 36,500,000	$ 311,350,000

DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1983						
Jan.	$ 93,450,000	$ 12,500,000	$ 105,950,000	$ 13,150,000	$ 950,000	$ 14,100,000
Feb. (p)	$ 99,100,000	$ 9,900,000	$ 109,000,000	$ 10,350,000	$ 650,000	$ 11,000,000
	$ 192,550,000	$ 22,400,000	$ 214,950,000	$ 23,500,000	$ 1,600,000	$ 25,100,000

P - Preliminary

N.M.T.B.A. F - 1c

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.



INDUSTRY ESTIMATE
METAL CUTTING TYPE MACHINE TOOLS
New Orders, Cancellations, Shipments and Backlog

DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1983							
Jan.	$ 51,350,000	$ 5,700,000	$ 57,050,000	992.65	$ 93,400,000	$ 14,000,000	$ 107,400,000
Feb. (p)	$ 70,050,000	$ 7,850,000	$ 77,900,000	941.60	$ 116,850,000	$ 12,100,000	$ 128,950,000
	$ 121,400,000	$ 13,550,000	$ 134,950,000		$ 210,250,000	$ 26,100,000	$ 236,350,000

DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1983						
Jan.	$ 62,750,000	$ 6,050,000	$ 68,800,000	$ 11,400,000	$ 350,000	$ 11,750,000
Feb. (p)	$ 78,800,000	$ 8,450,000	$ 87,250,000	$ 8,750,000	$ 600,000	$ 9,350,000
	$ 141,550,000	$ 14,500,000	$ 156,050,000	$ 20,150,000	$ 950,000	$ 21,100,000

P - Preliminary

N.M.T.B.A. F - 1c

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.

INDUSTRY ESTIMATE
METAL FORMING TYPE MACHINE TOOLS
New Orders, Cancellations, Shipments and Backlog

DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1983							
Jan.	$ 28,950,000	$ 5,850,000	$ 34,800,000	139.95	$ 38,050,000	$ 7,400,000	$ 45,450,000
Feb. (p)	$ 18,700,000	$ 1,400,000	$ 20,100,000	130.50	$ 26,550,000	$ 3,000,000	$ 29,550,000
	$ 47,650,000	$ 7,250,000	$ 54,900,000		$ 64,600,000	$ 10,400,000	$ 75,000,000

DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1983						
Jan.	$ 30,700,000	$ 6,450,000	$ 37,150,000	$ 1,750,000	$ 600,000	$ 2,350,000
Feb. (p)	$ 20,300,000	$ 1,450,000	$ 21,750,000	$ 1,600,000	$ 50,000	$ 1,650,000
	$ 51,000,000	$ 7,900,000	$ 58,900,000	$ 3,350,000	$ 650,000	$ 4,000,000

P - Preliminary

N.M.T.B.A. F - 1d

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.

BEST AVAILABLE COPY

A8050-1 4/25/83

April 18, 1983

press release

FOR RELEASE A.M. MONDAY, APRIL 25, 1983

McLean, VA, April 18, 1983 -- Orders and shipments of U.S.-made metal-cutting and metal-forming machine tools declined sharply in the first quarter of 1983 compared to the same period last year. Net new orders through March 31 dropped 38% and shipments fell 58%, according to data released today by the National Machine Tool Builders' Association. Orders for the quarter came in at $314,900,000 as opposed to $506,800,000 in 1982. Shipments, at $487,650,000, were down from a total of $1,154,200,000 recorded in the first three months of 1982.

However, for the month of March, orders increased 29% to $125,550,000 and shipments were up 11% to $176,450,000 compared to February totals. The March order level represented the highest monthly total since June of 1982.

(over)

Contact:
Charles Pollock

national machine tool builders association
7901 WESTPARK DRIVE
McLEAN, VIRGINIA 22102
AREA CODE (703) 893-2900
TWX: 710-831-0031 NMTBA MCLN

"Things cannot get much worse for our industry," said NMTBA President, James A. Gray. "Orders, shipments, and backlogs are all at distressingly low levels. In constant, uninflated dollars, industry activity is at the lowest level in 50 years. The one ray of hope is that the decline seems to be leveling off."

"Our industry's first quarter performance was anything but satisfactory," Gray emphasized, "but if an overall economic recovery is indeed underway, it would be a positive sign for the machine tool industry."

In the metal-cutting machine tool category, orders rose 16% for the month at $89,650,000, while shipments were up 5% at a level of $134,550,000. For the quarter, metal-cutting orders declined 42% at $224,100,000 and shipments were off 60% at $370,750,000 from the same period a year ago.

Orders for metal-forming machine tools increased 79% for the month at $35,900,000 and shipments in the category were up 42% at $41,900,000. First quarter of 1983 totals for metal-forming machine tools reflected a 26% decline in orders at $90,800,000 and a 47% drop in shipments at $116,900,000 compared to the first quarter of 1982.

Industry order backlogs continued to decline, shrinking to a level of $1,020,850,000 compared to $2,652,850,000 in March a year ago.

# # # # #

COMPARISON CHART

NET NEW ORDERS -- MACHINE TOOLS
(Thousands of Dollars)

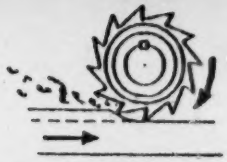
	METAL CUTTING			METAL FORMING			TOTAL Cutting and Forming		
	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total
Mar. 1983	84,950	4,700	89,650	32,100	3,800	35,900	117,050	8,500	125,550
Feb. 1983	69,550	7,850	77,400	18,700	1,400	20,100	88,250	9,250	97,500
% Change Mar.1983:Feb.1983	+22.1	-40.1	+15.8	+71.7	+171.4	+78.6	+32.6	-8.1	+28.8
March 1982	90,200	15,550	105,750	26,750	5,300	32,050	116,950	20,850	137,800
% Change Mar.1983:Mar.1982	-5.8	-69.8	-15.2	+20.0	-28.3	+12.0	+0.1	-59.2	-8.9
Year To Date 1983	205,850	18,250	224,100	79,750	11,050	90,800	285,600	29,300	314,900
Year To Date 1982	328,400	56,450	384,850	103,900	18,050	121,950	432,300	74,500	506,800
% Change 1983 : 1982	-37.3	-67.7	-41.8	-23.2	-38.8	-25.5	-33.9	-60.7	-37.9

SHIPMENTS -- MACHINE TOOLS
(Thousands of Dollars)

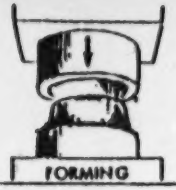
	METAL CUTTING			METAL FORMING			TOTAL Cutting and Forming		
	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total
Mar. 1983	119,850	14,700	134,550	36,450	5,450	41,900	156,300	20,150	176,450
Feb. 1983	116,700	12,100	128,800	26,550	3,000	29,550	143,250	15,100	158,350
% Change Mar.1983:Feb.1983	+2.7	+21.5	+4.5	+37.3	+81.7	+41.8	+9.1	+33.4	+11.4
March 1982	303,050	29,700	332,750	73,150	5,150	78,300	376,200	34,850	411,050
% Change Mar.1983:Mar.1982	-60.5	-50.5	-59.6	-50.2	+5.8	-46.5	-58.5	-42.2	-57.1
Year To Date 1983	329,950	40,800	370,750	101,050	15,850	116,900	431,000	56,650	487,650
Year To Date 1982	861,300	71,750	933,050	180,250	40,900	221,150	1,041,550	112,650	1,154,200
% Change 1983 : 1982	-61.7	-43.1	-60.3	-43.9	-61.2	-47.1	-58.6	-49.7	-57.7

Source: National Machine Tool Builders' Association

Form No. PRCC-2



TOTAL INDUSTRY ESTIMATE
MACHINE TOOLS - CUTTING AND FORMING
New Orders, Cancellations, Shipments and Backlog



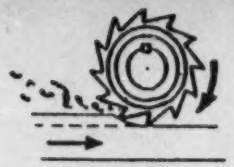
DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1983							
Jan.	$ 80,300,000	$ 11,550,000	$ 91,850,000	1,132.60	$ 131,450,000	$ 21,400,000	$ 152,850,000
Feb.	$ 88,250,000	$ 9,250,000	$ 97,500,000	1,071.75	$ 143,250,000	$ 15,100,000	$ 158,350,000
Mar. (p)	$ 117,050,000	$ 8,500,000	$ 125,550,000	1,020.85	$ 156,300,000	$ 20,150,000	$ 176,450,000
3 Mos.	$ 285,600,000	$ 29,300,000	$ 314,900,000		$ 431,000,000	$ 56,650,000	$ 487,650,000

DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1983						
Jan.	$ 93,450,000	$ 12,500,000	$ 105,950,000	$ 13,150,000	$ 950,000	$ 14,100,000
Feb.	$ 98,600,000	$ 9,900,000	$ 108,500,000	$ 10,350,000	$ 650,000	$ 11,000,000
Mar. (p)	$ 128,450,000	$ 10,200,000	$ 138,650,000	$ 11,400,000	$ 1,700,000	$ 13,100,000
3 Mos.	$ 320,500,000	$ 32,600,000	$ 353,100,000	$ 34,900,000	$ 3,300,000	$ 38,200,000

P - Preliminary

N.M.T.B.A. F - 1c

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.



INDUSTRY ESTIMATE
METAL CUTTING TYPE MACHINE TOOLS
New Orders, Cancellations, Shipments and Backlog

DATE	NET NEW ORDERS Domestic	Foreign	Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	Foreign	Total
1983							
Jan.	$ 51,350,000	$ 5,700,000	$ 57,050,000	992.65	$ 93,400,000	$ 14,000,000	$ 107,400,000
Feb.	$ 69,550,000	$ 7,850,000	$ 77,400,000	941.25	$ 116,700,000	$ 12,100,000	$ 128,800,000
Mar. (p)	$ 84,950,000	$ 4,700,000	$ 89,650,000	896.35	$ 119,850,000	$ 14,700,000	$ 134,550,000
3 Mos.	$ 205,850,000	$ 18,250,000	$ 224,100,000		$ 329,950,000	$ 40,800,000	$ 370,750,000

DATE	GROSS NEW ORDERS Domestic	Foreign	Total	CANCELLATIONS Domestic	Foreign	Total
1983						
Jan.	$ 62,750,000	$ 6,050,000	$ 68,800,000	$ 11,400,000	$ 350,000	$ 11,750,000
Feb.	$ 78,300,000	$ 8,450,000	$ 86,750,000	$ 8,750,000	$ 600,000	$ 9,350,000
Mar. (p)	$ 95,900,000	$ 6,350,000	$ 102,250,000	$ 10,950,000	$ 1,650,000	$ 12,600,000
3 Mos.	$ 236,950,000	$ 20,850,000	$ 257,800,000	$ 31,100,000	$ 2,600,000	$ 33,700,000

P - Preliminary

N.M.T.B.A. F - 1c

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.

INDUSTRY ESTIMATE
METAL FORMING TYPE MACHINE TOOLS
New Orders, Cancellations, Shipments and Backlog

DATE	NET NEW ORDERS Domestic	NET NEW ORDERS Foreign	NET NEW ORDERS Total	Order Backlog (In Mil. $)	SHIPMENTS Domestic	SHIPMENTS Foreign	SHIPMENTS Total
1983							
Jan.	$ 28,950,000	$ 5,850,000	$ 34,800,000	139.95	$ 38,050,000	$ 7,400,000	$ 45,450,000
Feb.	$ 18,700,000	$ 1,400,000	$ 20,100,000	130.50	$ 26,550,000	$ 3,000,000	$ 29,550,000
Mar. (p)	$ 32,100,000	$ 3,800,000	$ 35,900,000	124.50	$ 36,450,000	$ 5,450,000	$ 41,900,000
3 Mos.	$ 79,750,000	$ 11,050,000	$ 90,800,000		$ 101,050,000	$ 15,850,000	$ 116,900,000

DATE	GROSS NEW ORDERS Domestic	GROSS NEW ORDERS Foreign	GROSS NEW ORDERS Total	CANCELLATIONS Domestic	CANCELLATIONS Foreign	CANCELLATIONS Total
1983						
Jan.	$ 30,700,000	$ 6,450,000	$ 37,150,000	$ 1,750,000	$ 600,000	$ 2,350,000
Feb.	$ 20,300,000	$ 1,450,000	$ 21,750,000	$ 1,600,000	$ 50,000	$ 1,650,000
Mar. (p)	$ 32,550,000	$ 3,850,000	$ 36,400,000	$ 450,000	$ 50,000	$ 500,000
3 Mos.	$ 83,550,000	$ 11,750,000	$ 95,300,000	$ 3,800,000	$ 700,000	$ 4,500,000

P - Preliminary

N.M.T.B.A. F - 1d

NOTE: This table includes industry estimate figures based on reports submitted to the National Machine Tool Builders' Association. These industry estimates have not been adjusted for change in the value of the dollar.

QUARTERLY AND YEARLY SHIPMENTS AND NET NEW ORDERS OF MACHINE TOOLS
(DOLLAR FIGURES IN THOUSANDS)
1978 TO DATE

DATE	CUTTING AND FORMING			CUTTING			FORMING		
	SHIPMENTS Total	SHIPMENTS Foreign	NET NEW ORDERS	SHIPMENTS Total	SHIPMENTS Foreign	NET NEW ORDERS	SHIPMENTS Total	SHIPMENTS Foreign	NET NEW ORDERS
1978-1	$ 683,200	$ 62,300	$ 940,050	$ 503,850	$ 44,300	$ 723,850	$ 179,350	$ 18,100	$ 216,200
2	791,600	79,050	1,129,950	584,250	57,250	886,550	207,400	21,800	243,400
3	687,550	77,750	1,027,650	498,050	59,200	776,950	189,500	18,550	250,700
4	851,100	105,750	1,250,850	602,400	67,750	988,100	248,700	38,000	262,750
Total	$3,013,450	$324,850	$4,348,500	$2,188,500	$228,400	$3,375,450	$ 824,950	$ 96,450	$ 973,050
1979-1	$ 858,050	$ 88,300	$1,471,400	$ 633,450	$ 69,000	$1,158 250	$ 224,600	$ 19,300	$ 313,150
2	978,200	109,150	1,356,450	735,750	87,650	1,083,550	242,450	21,500	272,900
3	899,850	97,050	1,353,200	689,850	78,500	1,120,500	210,000	18,550	232,700
4	1,140,450	116,750	1,440,400	871,000	89,400	1,132,800	269,450	27,350	307,600
Total	$3,876,550	$411,250	$5,621,450	$2,930,050	$324,550	$4,495,100	$ 946,500	$ 86,700	$1,126,350
1980-1	$1,146,150	$115,700	$1,517,450	$ 881,400	$ 86,750	$1,207,800	$ 264,750	$ 28,950	$ 309,650
2	1,193,300	155,550	1,335,350	925,350	122,850	1,142,100	267,950	32,700	193,250
3	1,049,050	133,850	917,500	830,450	102,650	728,300	218,600	31,200	189,200
4	1,303,250	202,400	984,000	1,043,600	162,550	806,550	259,650	39,850	177,450
Total	$4,691,750	$607,500	$4,754,300	$3,680,800	$474,800	$3,884,750	$1,010,950	$ 132,700	$ 869,550
1981-1	$1,288,200	$210,800	$ 920,350	$1,017,850	$155,600	$ 706,600	$ 270,350	$ 55,200	$ 213,750
2	1,367,500	236,350	867,000	1,103,400	185,450	661,200	264,100	50,900	205,800
3	1,133,950	127,950	593,450	920,300	99,950	455,250	213,650	28,000	138,200
4	1,305,950	143,850	564,050	1,062,950	111,050	405,050	243,000	32,800	159,000
Total	$5,095,600	$718,950	$2,944,850	$4,104,500	$552,050	$2,228,100	$ 991,100	$ 166,900	$ 716,750
1982-1	$1,154,200	$112,650	$ 506,800	$ 933,050	$ 71,750	$ 384,850	$ 221,150	$ 40,900	$ 121,950
2	1,008,450	96,600	382,650	810,650	75,350	274,750	197,800	21,250	107,900
3	783,400	107,200	279,950	640,450	89,750	183,450	142,950	17,450	96,500
4	658,350	89,600	328,350	510,600	59,300	221,400	147,750	30,300	106,950
Total	$3,604,400	$406,050	$1,497,750	$2,894,750	$296,150	$1,064,450	$ 709,650	$ 109,900	$ 433,300
1983-1P	$ 487,650	$ 56,650	$ 314,900	$ 370,750	$ 40,800	$ 224,100	$ 116,900	$ 15,850	$ 90,800

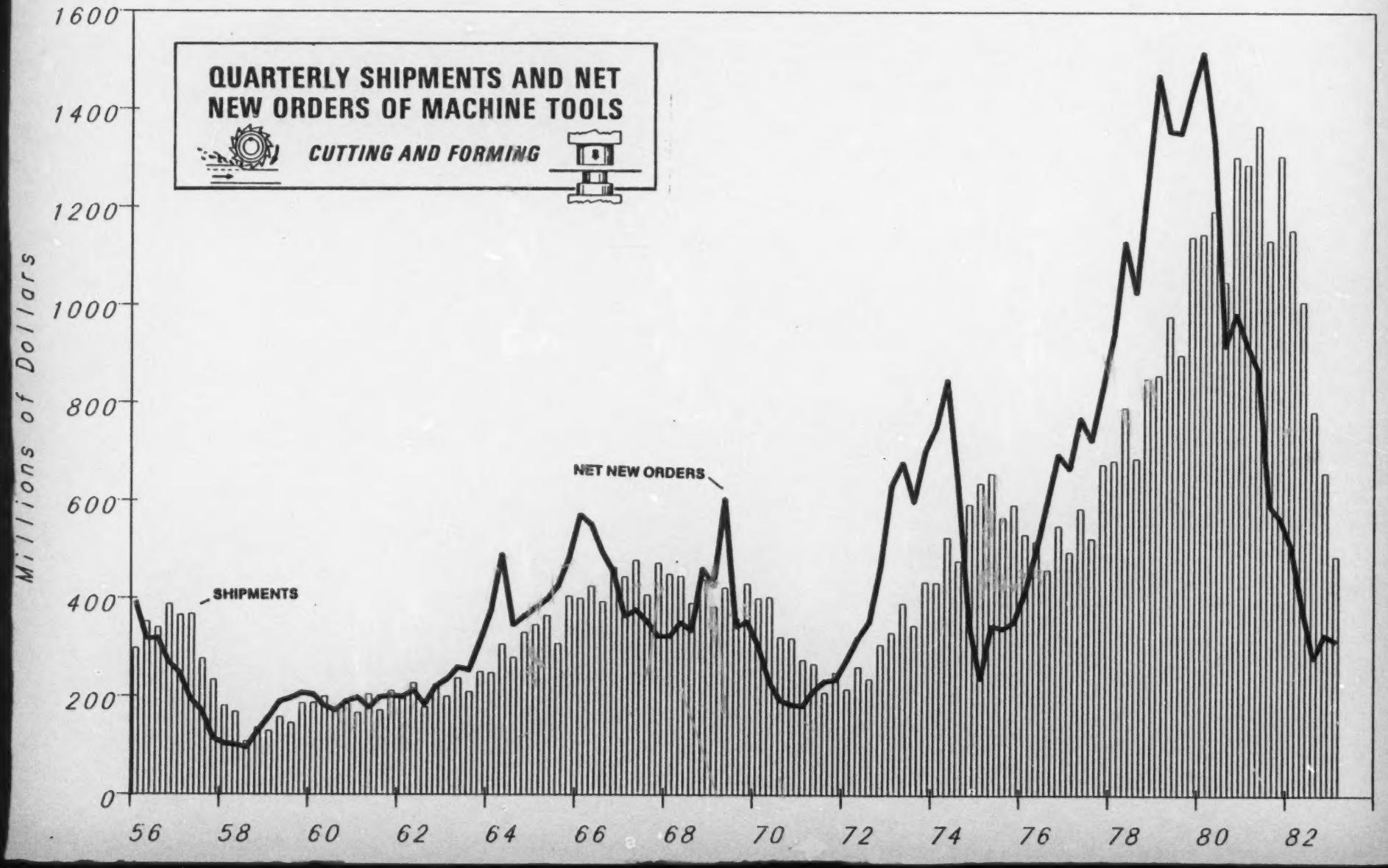
P - Preliminary

NOTE: These data series are available back to 1956. To obtain a copy of the tables for 1956 through 1982, contact: NMTBA Statistical Department, 7901 Westpark Drive, McLean, Virginia 22102. Phone: 703:893-2900

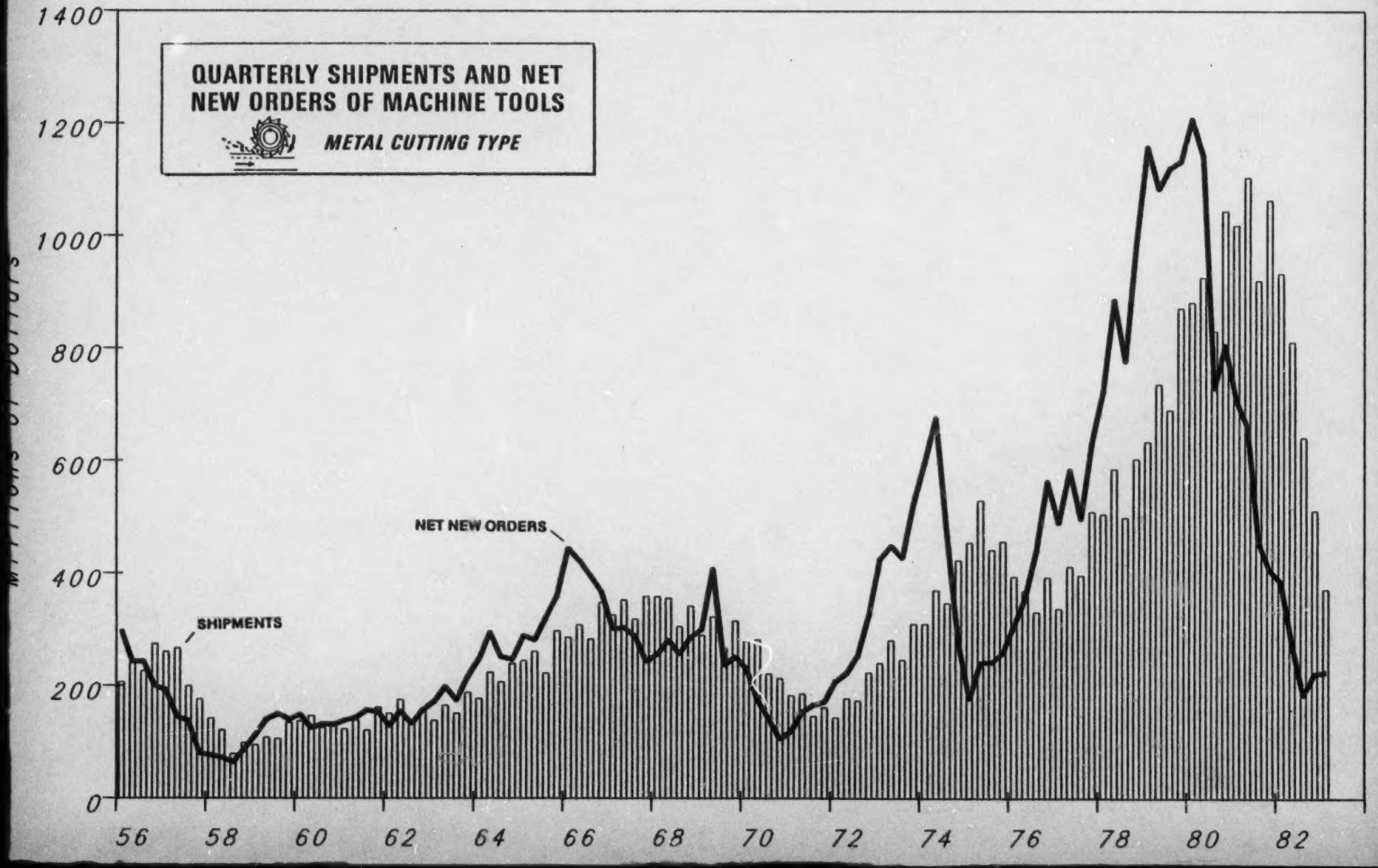
Source: National Machine Tool Builders' Association

April 25, 1983

Total Machine Tool Shipments (Bar) and Net New Orders (Line) Quarterly, 1956:1 to 1983:1



Metal Cutting Machine Tool Shipments (Bar) and Net New Orders (Line) Quarterly, 1956:1 to 1983:1



Metal Forming Machine Tool Shipments (Bar) and Net New Orders (Line) Quarterly, 1956:1 to 1983:1